

Application Number 10/705,733
Responsive to Office Action mailed October 30, 2007

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AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claim 1 (Previously Presented): A method, comprising:

selectively interrogating radio frequency identification tags in an interrogation corridor such that only those tags having a selected value in a specified memory location respond to the interrogation;

simultaneously receiving a response from all of the radio frequency identification tags having the selected value in the specified memory location;

detecting at least one radio frequency identification tag having the selected value in the specified memory location in the interrogation corridor if only a valid partial response is received; and

indicating an alarm upon receiving only the valid partial response from at least one of the radio frequency identification tags having the selected value.

Claim 2 (Canceled).

Claim 3 (Original): The method of claim 1 wherein the step of selectively interrogating further comprises commanding the radio frequency identification tags having the selected value in the specified memory location to respond to the interrogation at the same time.

Claim 4 (Original): The method of claim 1 wherein the step of selectively interrogating further comprises sending an Application Family Identifier (AFI) command having an AFI value set to the selected value such that only those tags having the selected value in an AFI memory location respond to the interrogation.

Claim 5 (Original): The method of claim 4 wherein radio frequency identification tags are attached to articles in a protected facility, and wherein the AFI memory location is set to a checked-in value.

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Claim 6 (Original): The method of claim 5 further comprising indicating an alarm when a patron attempts to remove an article having a radio frequency identification tag with the AFI memory location set to a checked-in value.

Claim 7 (Original): The method of claim 1 further comprising the step of determining that no radio frequency identification tag having the selected value in the specified memory location is present in the interrogation corridor if a valid response is not received.

Claim 8 (Previously Presented): The method of claim 1 wherein the radio frequency identification tags are attached to articles within a protected area, and wherein the selected value indicates whether removal of the articles from the protected area is authorized.

Claim 9 (Original): The method of claim 8, further comprising indicating an alarm if an article having a radio frequency identification tag attached thereto having the selected value in the specified memory location is detected.

Claim 10 (Previously Presented): The method of claim 1 wherein the step of detecting at least one radio frequency identification tag comprises analyzing less than all of the received response and determining whether a valid start-of-frame (SOF) field was received.

Claim 11 (Original): The method of claim 10, further comprising determining that no radio frequency identification tags having the selected value in the specified memory location are present in the interrogation corridor if a valid SOF is not received.

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Claim 12 (Previously Presented): A method, comprising:

measuring a noise floor in an interrogation corridor when no radio frequency identification tags are present;

selectively interrogating radio frequency identification tags in the interrogation corridor such that only those tags having a selected value in a specified memory location respond to the interrogation;

receiving a signal representative of a possible response from one or more of the radio frequency identification tags having the selected value in the specified memory location;

comparing the received signal with the noise floor to validate that the received possible response was produced by a checked-in radio frequency identification tag; and

detecting at least one of the radio frequency identification tags having the selected value in the specified memory location in the interrogation corridor when the signal was produced by a checked-in radio frequency identification tag and at least a valid partial response is received.

Claim 13 (Original): The method of claim 12 further comprising comparing the received response with the noise floor at the beginning of the response.

Claim 14 (Original): The method of claim 13 further comprising comparing the received possible response with the noise floor after the expected end of the response.

Claim 15 (Original): The method of claim 12 further comprising detecting presence of a radio frequency identification tag having the selected value in the specified memory location based on the comparison.

Claim 16 (Original): The method of claim 15 further comprising indicating an alarm of presence of a radio frequency identification tag having the selected value in the specified memory location is detected.

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Claim 17 (Original): The method of claim 1 further comprising creating a key for a destroy command that when executed renders a radio frequency identification tag nonfunctional, wherein the radio frequency identification tag is affixed to an article and wherein the article has an associated Electronic Product Code, wherein creating the key further comprises:

- generating a key value based on an Electronic Product Code;
- storing the key value in a destroy memory location;
- issuing a destroy command and transmitting therewith an unlock value;
- comparing the unlock value with the stored key value; and
- executing the destroy command if the unlock value equals the stored key value.

Claim 18 (Original): A method, comprising:

- interrogating radio frequency identification tags in an interrogation corridor to identify presence of those tags having a selected value in a specified memory location;
- simultaneously receiving a response from all of the radio frequency identification tags in the interrogation corridor;
- detecting a collision in at least one bit of the specified memory location; and
- detecting at least one radio frequency identification tag having the selected value in the specified memory location in the interrogation corridor if a collision is detected.

Claim 19 (Original): The method of claim 18 wherein the step of detecting a collision further comprises detecting a collision in one bit of the specified memory location.

Claim 20 (Original): The method of claim 18 further comprising, if no collision is detected, determining whether the received response indicates that the specified memory location contains the selected value.

Claim 21 (Original): The method of claim 20 further comprising detecting at least one radio frequency identification tag having the selected value in the selected memory location in the interrogation corridor if the received response indicates that the specified memory location contains the selected value.

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Claim 22 (Previously Presented): The method of claim 21 further comprising determining that no radio frequency identification tags having the selected value in the selected memory location are present in the interrogation corridor if the received response indicates that the specified memory location does not contain the selected value.

Claim 23 (Previously Presented): A computer-readable medium comprising instructions to cause a processor to:

selectively interrogate radio frequency identification tags in an interrogation corridor such that only those tags having a selected value in a specified memory location respond to the interrogation;

simultaneously receive a response from all of the radio frequency identification tags having the selected value in the specified memory location;

detect at least one radio frequency identification tag having the selected value in the specified memory location in the interrogation corridor if only a valid partial response is received; and

indicating an alarm upon receiving only the valid partial response from at least one of the radio frequency identification tags having the selected value.

Claim 24 (Canceled).

Claim 25 (Original): The computer readable medium of claim 23 further comprising instructions to cause a processor to command the radio frequency identification tags having the selected value in the specified memory location to respond to the interrogation at the same time.

Claim 26 (Previously Presented): The computer readable medium of claim 23 further comprising instructions to cause a processor to determine that no radio frequency identification tag having the selected value in the specified memory location is present in the interrogation corridor if a valid response is not received.

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Claim 27 (Previously Presented): The computer readable medium of claim 23 wherein the radio frequency identification tags are attached to articles within a protected area, and wherein the selected value indicates whether the articles removal from the protected area is authorized.

Claim 28 (Original): The computer readable medium of claim 27 further comprising instructions to cause a processor to indicate an alarm if an article having a radio frequency identification tag attached thereto having the selected value in the specified memory location is detected.

Claim 29 (Original): The computer readable medium of claim 25 further comprising instructions to cause a processor to validate the received response.

Claim 30 (Previously Presented): The computer readable medium of claim 29 further comprising instructions to cause a processor to analyze the received response and determine whether a valid start-of-frame (SOF) field was simultaneously received from the plurality of radio frequency tags.

Claim 31 (Canceled).

Claim 32 (Previously Presented): A method comprising:
receiving only a partial response from a radio frequency identification tag in an interrogation corridor; and
generating an alarm upon receiving only the partial response to indicate that an unauthorized article is present within the interrogation corridor.

Claim 33 (Original): The method of claim 32, where the partial response comprises a start of frame (SOF).

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Claim 34 (Original): The method of claim 32, further comprising:
measuring a noise floor in the interrogation corridor prior to receiving the partial response;
comparing the received partial response with the noise floor; and
selectively generating the alarm based on the comparison.

Claim 35 (Previously Presented): The method of claim 1, wherein detecting at least one radio frequency identification tag comprises validating a first portion of the received response that does not collide for the plurality of radio frequency identification tags without validating a remaining portion of the received response.

Claim 36 (Previously Presented): A system comprising:
a plurality of radio frequency (RF) antennas set up to provide an interrogation corridor, wherein the RF antennas interrogate radio frequency identification tags in the interrogation corridor; and
a RF reader coupled to the plurality of antennas, wherein the RF reader simultaneously receives a response from all of the radio frequency identification tags in the interrogation corridor, detects whether a collision occurs in at least one bit of a specified memory location, and detects at least one radio frequency identification tag having a selected value in the specified memory location in the interrogation corridor upon detecting a collision.

Claim 37 (Previously Presented): The system of claim 36, wherein the RF reader detects whether a collision occurs in one bit of the specified memory location.

Claim 38 (Previously Presented): The system of claim 37, wherein the RF reader detects whether a collision occurs in a Start-of-Frame (SoF) bit.

Claim 39 (Previously Presented): The system of claim 36, wherein when no collision is detected, the RF reader determines whether the received response indicates that the specified memory location contains the selected value.

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Claim 40 (Previously Presented): The system of claim 39, wherein the RF reader detects at least one radio frequency identification tag having the selected value in the selected memory location in the interrogation corridor when the received response indicates that the specified memory location contains the selected value.

Claim 41 (Previously Presented): The system of claim 40, wherein the RF reader determines that no radio frequency identification tags having the selected value in the selected memory location are present in the interrogation corridor when the received response indicates that the specified memory location does not contain the selected value.